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ABSTRACT

An education committee task force of the National Association of Manufacturers conducted an indepth study of secondary vocational education and concluded that many of these programs are unable to adequately meet the occupational training needs of students or the manpower requirements of industry. Major weaknesses cited are: (1) too few students are receiving occupational training in areas where jobs are available or expected to be available, (2) problem of dropouts, (3) lack of program relevancy, (4) lack of student familiarity with the world of work prior to reaching high school, (5) lack of program flexibility, and (6) limited career counseling. Limited business and industry involvement in vocational education and unnecessarily high education requirements for jobs also are contributing factors. Cooperative education programs are considered valuable, but their expansion is impeded by union policy and local, State, and Federal laws. The summary report concludes with a policy statement incorporating several suggestions for improving the effectiveness of vocational education programs. (RG)

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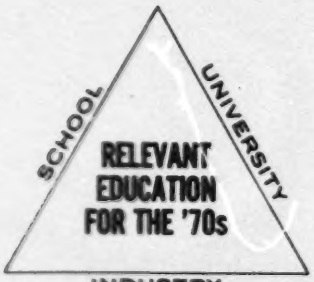
PUBLIC POLICY REPORT

Secondary Vocational Education



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INTRODUCTION

Despite its tremendous growth in enrollment and expenditures during the last seven years, vocational education has come under increasing criticism from many sectors on the ground that it is not adequately meeting the needs of students, industry or society. Although the statistics and research available in this field are not as complete as seems desirable, the best data indicate that generally the quality and overall effectiveness of vocational education programs are less than satisfactory.

American industry in its roles as corporate citizen, taxpayer and a potential employer of vocational education graduates, as well as long-time supporter of the vocational education movement, is increasingly seeking to cooperate in improving public secondary vocational education programs in order to meet the occupational needs of students and society, as well as its own personnel requirements.

An Education Committee Task Force of the National Association of Manufacturers took an in-depth look at secondary vocational education. The findings of this study have been condensed into this Public Policy Report which presents the background for the Association's official position which states in part:

> The social and economic well-being of large numbers of high school students who seek employment directly upon graduation is largely dependent upon the effectiveness of their elementary and secondary education programs in preparing them for participation in the world of work. Industry believes that many vocational education programs do not adequately meet the occupational training needs of the student or industry's manpower requirements.

THE PAST AND PRESENT

The social and economic well-being of the nation depends upon an ample supply of individuals adequately prepared to participate in the world of work. Given the importance of vocational education, it is vital to understand more fully the present programs, the successes and failures, as well as the general effectiveness of public vocational education in meeting the needs of both students and employers. Only in this manner can employers and educators jointly develop programs to meet the diversified needs of today's students and employers.

Vocational education has evolved from an individually initiated, informal and separate education experience into a major component of the American public education system in less than fifty-five years. Although vocational education programs increased steadily following the enactment of the Smith-Hughes Act of 1917, the most marked expansion has occurred since the passage of major vocational education legislation in 1963 and 1968. This legislation broadened the concept of vocational education from that of providing occupational training in a few selected occupational categories to providing training in all occupations. The legislation also provided for special programs to be developed to meet the occupational needs of academically, economically or otherwise handicapped persons. Total federal expenditures for vocational education quadrupled from just under $300 million in 1963 to over $1.3 billion in 1969. Total student enrollment in vocational education programs doubled to approximately 8.1 million students. About one-half are enrolled in secondary school programs, with the balance being either adult programs (42%), post-secondary technical schools (7%), or special programs.

Between 1940 and 1967 over 4 million blacks migrated from the South to the big cities and metropolitan areas of the

Northeast, Midwest and Far West. In the South, most had attended rural schools which offered limited vocational education opportunities. However, once they were in their new homes many were placed in vocational education programs. At the same time, increased numbers of middle-class white students were avoiding vocational programs in order to enroll in college preparatory programs. A significant shift in the make-up of the student body of vocational education seems to have occurred. Several recent research studies have found that the majority of today's vocational education students are from "poor families" and generally have "below average" verbal and mathematical abilities.

In order to grapple with current vocational education programs, it is helpful to have an appreciation of the relative costs of such programs as compared to other secondary school programs. Although there is little meaningful national data from which to derive an accurate average per pupil cost, a number of state and local research efforts indicate that at the secondary level vocational education costs are between 50% and 100% higher than the per pupil cost of academic education or somewhere between $1100 and $1500 per pupil. This is primarily due to the smaller size of vocational classes, higher instructor salaries, higher equipment and supply costs. However, it is important to recognize, that there is considerable variation in the costs of different vocational programs, with occupational training in the trades and industry programs being one of the more costly.

In light of this brief description of the student body and costs of vocational education programs, it is possible to explore a few of the reasons which contribute to the inability of secondary vocational education to meet adequately the occupational needs of students and society.

A study prepared by the General Learning Corporation indicated that industry would require 31.5 million new employee entrants with less than four years of college between 1967-1975, and about 75% or 23 million would need some occupational preparation. Even if 23 million is an overestimation of actual job market requirements, existing vocational education programs are not graduating enough students to fill even one-half of this projected need. When students enrollment distribution among the various vocational education programs is compared with actual and projected job market demands, General Learning Corporation's projections are more disturbing. For example, in 1967 only 12% of vocational education students were enrolled in "trades and industry" which was one-third of the projected job market need for this type of training. At the other extreme, 37% of vocational education students were enrolled in home economics courses or 6 times as many as the projected need will be.

General Learning Corporation's projections are reinforced by a June 1970, United States Bureau of Labor report which states that "eight out of ten jobs to be filled over the next ten years will be filled by young workers with less than a college degree." The report goes on to say that, "With so much competition from young people who have higher levels of education, the boy or girl who does not get good preparation for work will find the going more difficult in the years ahead."

This apparent inability of secondary vocational education to respond to job market projections for occupationally trained high school students, is to a large extent explained by four factors:

1. The current social emphasis placed on a college degree, combined with the higher cost of vocational education

programs as compared with academic education, makes expansion of vocational education programs difficult to achieve.

2. The relatively high cost of providing occupational training in some subjects such as trades and industry hinders the expansion of these vocational education programs because funds are usually allocated on a per pupil basis.

3. Students view some jobs as menial, dirty and in general undesirable. As a result, students do not enroll in vocational programs for these jobs even though both the programs and jobs are available.

4. Many vocational educational programs do not develop viable feedback and evaluation systems. As a result, administrators cannot effectively set objectives, control and plan for the future occupational needs of the students and their community's requirements.

THE WORLD OF WORK

In addition to the problem of too few students receiving occupational training in areas where jobs are available or expected to be available, there are problems associated with dropping out, program relevancy and job placement.

The average national dropout rate in secondary vocational education programs is close to 45%, which is considerably higher than the rate in nonvocational education programs. Although it is difficult, if not impossible, to identify any one cause, a number of contributing factors can be identified.

As was previously noted, a large percent of vocational education students are from socially, economically, and intellectually disadvantaged backgrounds and thus have

special needs. A recent HEW-NAM survey found that there were only a few programs especially designed for the "disadvantaged" and of these only a small percentage was effective in reducing the number of dropouts and meeting the special needs of these students. As a result, many vocational education students are unable to see how vocational education can benefit them. They tend to become frustrated and drop out.

One indication of the lack of relevancy in many vocational education programs is that large numbers of their graduates are not placed in jobs for which they receive school training. Taking into account that education-related placement statistics are both incomplete and weak, and since little detailed analysis of this type has been applied to other types of educational programs, comparative evaluation is difficult. However, a national study of vocational graduates from "trades and industry" programs showed that "only 50% of vocational education graduates were placed on jobs related to their training." Jacob Kaufman attributes this condition to overspecialized and obsolete skill training in many "trades and industry" vocational programs. Kaufman concludes that, after taking into consideration slippage caused by union contacts, marriage, and a number of other factors, the student finds that his specialized skill training may hinder the chances of getting work in the field for which training was received, since technological changes may have made these skills obsolete.

This view, at least partially, explains a United States Department of Labor report which claims that industry depends upon on-the-job training more than any other program to train its employees, except in the professional and technical occupations. Many business firms have no

contact with vocational education programs. Does this suggest a reason why some vocational education students find the occupational training they receive in high school irrelevant and drop out? The relative high cost of vocational education, its low prestige as compared to academic education, weak program administration and overspecialized job training all seem to encourage dropouts, program irrelevancy, and poor placement.

Three other very important conditions seem to contribute the ineffectiveness of some vocational programs - the lack of student familiarity with the "world of work" prior to reaching high school; the lack of program flexibility; and the limited occupational counseling received.

There is an increasing awareness on the part of many laymen and vocational education officials that high school students generally receive little acquaintance with the "world of work" prior to choosing a career occupation and enrolling in a vocational education program. As a result, many students are not familiar with occupational alternatives available to them in other fields, thereby increasing the chances that a student may find his needs are not met by the program chosen. Further, once a student enrolls in a particular vocational education program he has little opportunity to transfer to another program; he has little choice but to continue in his program until graduation and then get a job in the field he prefers or drop out. Dr. Grant Venn, former Associate U.S. Commissioner for Adult, Vocational and Library Programs of the U.S. Office of Education, suggests that vocational education "reaches the scene too late" and that it is necessary to provide all students in elementary and junior high school with an appreciation and understanding of attitudes, rewards and skills.

CAREER COUNSELING

A major factor contributing to the inability of vocational education to satisfy the needs of students is the limited career guidance provided. It is unfair to attribute this deficiency solely to the guidance counselor's limited knowledge about job opportunities and requirements in business and industry. However, this is one of the major reasons for improper career counseling. Other factors which contribute are:

1. Counselors and secondary schools are often judged on the basis of their ability to place students in college rather than in jobs. Therefore, the majority of teachers and administrators direct their efforts toward placement of the college-bound student.

2. Counselors often perceive vocational education as a program which offers the student only a limited number of choices; a program which is separate and apart from the rest of the "regular" academic school; and a program which is concerned only with turning out skilled technicians and craftsmen at a secondary school level; and as a result, the tendency is to discourage high school students from enrolling in vocational education programs.

3. The negative attitudes of parents, businessmen and nonvocational educators toward vocational education influences counselors not to direct students into vocational education except as a last resort.

These factors taken together have resulted in vocational education students receiving only limited occupational career counseling. In addition, the above factors help to explain why high-ability students have to fight to get into vocational education programs, whereas many low-ability students are "dumped" into them.

INDUSTRY INVOLVEMENT

Up until this point, this discussion of the major causes of secondary vocational education's failure to meet the occupational and education needs of the student and of society has, except for its comments on the public's negative attitude toward vocational education, concentrated on the weaknesses within the vocational education system. A major external contributor to this condition is limited business and industry involvement in shaping the directions and programs of vocational education.

Industry involvement in vocational education tends to be limited to contributing equipment to high schools, participating in cooperative programs, and occasionally serving on an advisory committee. These forms of participation are helpful in making vocational education more meaningful to the student, but the evidence of involvement and resulting changes is quite small. The cooperative programs in which industry participates have evolved into one of the more successful types of vocational education programs but local, state and federal laws, as well as union policy, tend to restrict their expansion. Despite numerous well-intentioned efforts, industry's impact on and contribution to vocational education have been limited and new concepts must be developed if meaningful contributions are to be made.

Among the major reasons for this limited industry involvement are the following:

1. Many firms have become disillusioned with vocational programs and have established their own programs to train and educate all types of high school graduates and dropouts.
2. Many educators are hesitant about inviting industry to become actively involved in vocational education for fear of precipitating major change.

3. In many cases, union contracts minimize the benefits of industry involvement in vocational education.

4. Many industrial firms do not know how they can contribute to vocational education.

The lack of involvement on the part of industry and business at least partially explains why vocational education has been sustained very similar to what it was twenty-five years ago. A major flaw is that administrative attention is focused on inputs rather than outputs. Results, not intentions, must be the gauge of success.

JOB REQUIREMENTS

In addition to the rather limited involvement of business firms in vocational education, some employers set inconsistent and often unnecessarily high education requirements for jobs. For example, Dr. Martin Hamburger and Dr. Harry Wolfson, in a study of 1000 employers in New York City, noted that the majority of these employers had established job requirements which either ignored or had little relationship to the job an employee was hired to do.

The recent findings of Professor Ivar Berg of Columbia Graduate School of Business confirm these results. Dr. Berg found that employer-specified "education requirements for employment" have continued to rise because employers are convinced that by raising their education requirements they will get more productive employees. This emphasis by some firms on "education credentials" is ironic because Dr. Berg's research suggests that:

1. An employee's productivity does not vary systematically with his years of formal education, particularly when experience is taken into account.

2. Upper- and middle-level employees are not the only employees who may be overqualified for their jobs. Among less skilled workers, job dissatisfaction was found to increase as educational levels rise.

3. Better-educated employees are often rated as less productive because of boredom, disinterest and frustration.

Even though there are numerous highly successful specialized vocational education programs, several improvements in both form and substance seem to be required. NAM policy states that: "to improve the effectiveness of occupational education in providing students with the qualifications needed to get and hold a job, industry believes:

1. All students' learning experiences should include general orientation to the world of work beginning with the elementary grades, and industrial arts programs at the intermediate grade levels should be kept up-to-date to reflect advancing technology.

2. Secondary vocational education students can be served better by programs which integrate both academic and occupational training into a total environment education to provide students with the opportunity to develop social and self concepts, proper work attitudes, adequate reading and computational skills, a desire to achieve, as well as general occupational education rather than over specialized training.

3. The diverse educational and occupational needs of vocational education students can be satisfied better by a broader, more flexible range of programs. Furthermore, cooperative programs should be expanded even when this requires modification of existing statutes.

4. Systematic and standardized methods of evaluating programs based on results should be required.

5. Industry and school systems are encouraged to enter into performance contractual arrangements for industry to provide occupational training.

6. Parents, students, educators and guidance counselors should become more aware of the critical importance of developing students' occupational orientations to enable them to get jobs and achieve full career potentials. In this regard, industry should communicate to educators, the public, and guidance counselors the value, dignity, and personal fulfillment of careers in the world of work.

7. Employers should determine more realistically the occupational and academic requirements for jobs and communicate these to educators, counselors, and students. Wherever realistic requirements have not been established, employers should redefine hiring and upgrading standards in order to eliminate nonrelevant requirements."

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